

# ADAK NAVAL AIR FACILITY

## ADAK, ALASKA

**Engineering Field Division/Activity:** EFANW

**Major Claimant:** CINCPACFLT

**Size:** 63,935 Acres

**Funding to Date:** \$23,827,000

**Estimated Funding to Complete:** \$230,000

**Base Mission:** Maintains and operates facilities and provides services and materials to support operations of aviation activities and operating forces of the U.S. Navy

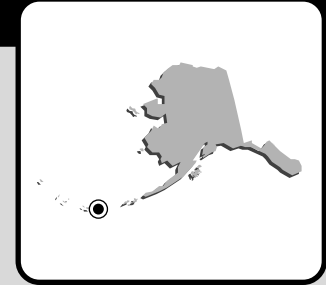
**Contaminants:** Heavy metals, PCBs, organic compounds, pesticides, POIs

### Number of Sites:

**CERCLA:** 60  
**RCRA Corrective Action:** 4  
**RCRA UST:** 32  
**Total Sites:** 96

### Relative Risk Ranking of Sites:

**High:** 23      **Not Evaluated:** 41  
**Medium:** 5      **Response Complete:** 24  
**Low:** 3      **Total Sites:** 96



**NPL**

**BRAC IV**

## EXECUTIVE SUMMARY

Adak Naval Air Facility (NAF) occupies 63,935 acres on the northern half of Adak Island. All NAF buildings and facilities are located along the shores of Kuluk Bay and Sweeper Cove. NAF Adak provides services and materials to support aviation activities and operating forces of the Navy. The Navy's anti-submarine warfare surveillance mission no longer requires these facilities to support its aircraft. NAF was recommended for closure by the Base Realignment and Closure (BRAC) Commission in 1995. Past operations include ordnance handling, firing ranges, sanitary landfills, a metals landfill, aircraft re-fueling, pest control, fire fighting training, power plant maintenance and random disposal of drums and other materials (including transformers) in unpopulated areas on Adak Island. Transportation costs from drum shipments from Adak are expensive and therefore drum disposal has been a major problem. The Navy has changed its operational processes to prevent further contamination. NAF Adak was placed on the National Priorities List (NPL) in 1994. A Federal Facilities Compliance Agreement (FFCA) was signed in 1990. On 15 November 1993, the Navy, EPA and the Alaska Department of Environmental Conservation signed a Federal Facility Agreement (FFA).

A Groundwater Study Plan and a Background Sampling Plan are being developed to determine reference conditions for surface water, groundwater and soils. Many of the disposal sites are located within or in proximity to surface streams, ponds and lakes. Contaminant migration via surface drainage to freshwater and marine environments is a primary concern. Site 92, a waste ordnance area, lies in a shallow ravine that drains to Scotty Lake, a recreational area. Surface water runoff at Solid Waste Management Unit (SWMU) 1 is to Andrew Lake, another recreational area. Halibut and salmon are found in abundance and are important fish to commercial and sport fishermen. Arctic fox and caribou live on the island. Marine mammals include sea otters, porpoise, sea lions, fur seals and whales.

Adak is in a remote community which makes it difficult logistically to foster community involvement. Open houses and formal public meetings

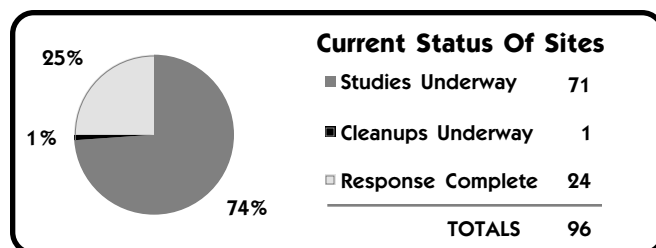
have been held in Anchorage and on Adak Island to address questions and concerns. In March 1995, the Community Relations Plan (CRP) was extensively revised to reflect changes that resulted from the signing of the FFA. In FY95, a Restoration Advisory Board (RAB) was formed. Fact sheets were prepared. Membership is anticipated to include stakeholders, state and federal representatives and others interested in property transfer. Monthly RAB meetings will begin in FY96.

At the end of FY95, 71 of the 96 NAF sites were in the study phase, one was in the cleanup phase and 24 are Response Complete (RC). Past removal actions include an Interim Remedial Action (IRA) in FY92 at four spill sites contaminated with the chemical additive PCB that consisted of removing contaminated soil. Field work was conducted to support Preliminary Source Evaluations (PSEs) at twelve sites in FY95 and draft PSEs are anticipated in February 1996 as scheduled in the FFA. PSEs have been completed on 38 sites listed in the FFA. A time critical removal action was completed in FY95 at Site 92, a high relative risk site. The action consisted of excavation and removal of leaking incendiary (Napalm) bombs. The bombs were disposed of by open detonation and burning on Adak Island in a containment structure.

Design work and planning continues in FY96 for IRAs at SWMU 11 which consist of recontouring the site and diverting an existing stream to prevent contact with landfilled materials. An IRA is planned at SWMU 13 to place a cover on the site to form an intrusion barrier to prevent exposure of landfilled materials. Notable cost savings have occurred at SWMUs 11 and 13. Original plans included a ten acre RCRA cap that was anticipated to cost \$15 million. By identifying and closing the RCRA portion and installing a landfill cover, current costs have been only \$5 million.

In FY96 at SWMU 67, capping PCB contaminated areas will form an infiltration barrier to prevent erosion and leaching of contaminated soils from the site and contamination of a salmon spawning stream. SWMUs 11, 13 and 67 are all currently ranked as high relative risk.

Upon nomination of NAF Adak for BRAC IV, Engineering Field Activity, North-West (EFA NW) visited representatives from Congress and the State of Alaska, Fish and Wildlife, Coast Guard, EPA and various military representatives to develop stakeholders points of interest. A Reuse Planning Committee and BRAC Cleanup Team (BCT) have been formed. Stakeholder consensus for all decisions regarding BRAC execution is a major concern. A draft of the BRAC Cleanup Plan (BCP) is expected during the first half of 1996.



## ADAK NAF RELEVANT ISSUES

### ENVIRONMENTAL RISK



**HYDROGEOLOGY** - No developed or extensive aquifer system is present on NAF Adak. Groundwater is not used as a potable water source. Many of the disposal sites are located within surface streams, ponds and lakes or in the proximity to these water bodies. Therefore, surface drainage is a primary mechanism of contaminant migration to freshwater environments and critical habitats within the marine water bodies. Site 92 (Waste Ordnance Pile - Fin Field) lies in a shallow ravine in an area of meadows and streams three miles west of the Adak complex. The ravine drains to Scotty Lake. Recreational activities in this area include hiking, hunting and fishing. Surface water runoff at Solid Waste Management Unit (SWMU) 1 is to Andrew Lake, a recreational area. A Groundwater Study Plan has been developed for NAF Adak to determine the nature and extent of the groundwater regime on the island and the potential for site contamination to impact groundwater quality. A Background Sampling Plan is also being developed for NAF Adak to determine reference conditions for surface water, groundwater and soils.



**NATURAL RESOURCES** - Native vegetation, located in both actively used areas and all other areas on Adak, consists of grasses, legumes, forbs, mosses and lichens. Fish are abundant in lakes and streams on NAF Adak and in the surrounding marine waters. Five species of salmon are found in the waters surrounding Adak - pink, chum, silver, red and kin. All species except the king salmon, spawn in the local streams. Halibut, an important fish to commercial and sport fisherman, is found in the intertidal and near tidal zones around Adak Island. Other fish, including herring and perch, are popular with local anglers. A total of 146 species of birds have been observed on Adak Island. Some of these birds are commonly found and others are seasonal migrants. Nine areas on Adak Island are important to bird life. These areas include a cliff, the Clam Lagoon, intertidal area, tern colony, wetlands, Finger Creek, Mount Reed and Shagak Bay. Mammal species include the Arctic fox and caribou. Marine mammals include sea otters, porpoise, sea lions, fur seals and twelve species of whales. Some of these whales inhabit the local waters year-round, while others seasonally migrate through the region. Adak has several species of animals and plants which are protected. The Aleutian Canadian goose, an endangered species, the Eskimo curlew, protected by the State of Alaska and the Aleutian shield fern, a rare plant species, are found on the island. Bald eagles are common in Adak. Also, seven types of protected whales are found in the area.



**RISK** - Under the DOD Relative Risk Ranking System, three sites and 20 SWMUs at NAS received a relative risk ranking. Site 75 (Asphalt Storage Area) is located in downtown Adak, near a residential area. Off limit signs are posted. Since no significant contaminants have been found, Site 75 has been recommended for No Further Action (NFA). Site 92 (Waste Ordnance Pile - Fin Field) is in a drainage basin that discharges to Scotty Lake. A removal action was completed at Site 92 in FY95, that consisted of excavation and removal of leaking incendiary (Napalm) bombs. The plans were reviewed by regulatory agencies to ensure that appropriate measures would be taken to protect human health and the environment during the removal action. SWMU 1 has been in operation since 1942 as an ordnance compound. Surface water from SWMU 1 discharges to Andrew Lake, a recreational area. SWMU 6 is located near Andrew Lake and was a drum disposal area. Contaminated sediments from SWMUs 1 and 6 may pose an exposure risk to benthic community and upper tropic levels such as sea otters, eagles, etc. Several high ranked sites are landfills where wastes such as petroleum products, paints, solvents, sanitary refuse, batteries and metals were disposed of. Soils, groundwater and sediments may be affected. Two landfills, SWMUs 11 and 13 will have Interim Removal Actions (IRAs) in FY96. The IRA at SWMU 11 will consist of recontouring the site and diverting an existing stream to prevent contact with landfilled materials. At SWMU 13, the IRA will consist of consolidating existing on-site debris and placing a cover on the site to form an intrusion barrier to prevent exposure of landfilled materials. Two SWMUs, 20 and 67, have soils

contaminated with the chemical additive PCB. Aquatic ecological receptors are located in the Trout Creek area. This area is also a recreational area. SWMU 20 is still under study. In FY96, capping of areas of high PCB contamination at SWMU 67 will form an infiltration barrier. This will prevent erosion and leaching of contaminated soils containing the chemical additive PCB from the site and eliminate contamination of downgradient areas including an important salmon spawning stream.

### REGULATORY ISSUES



**NATIONAL PRIORITIES LIST** - NAF Adak was listed on the National Priorities List (NPL) on 31 May 1994 with a Hazard Ranking System (HRS) score of 51.37.



**LEGAL AGREEMENTS** - On November 15, 1993, the Navy, EPA and the Alaska Department of Environmental Conservation signed a Federal Facility Agreement (FFA). In the FFA, sites were renumbered and 48 sites were divided into four Operable Units (OU). The FFA also identified requirements for basewide studies of groundwater and background sampling.



**PARTNERING** - A number of partnering initiatives have been undertaken both prior to and after the Base Realignment and Closure (BRAC) listing of NAF Adak. Under the FFA, representatives of EPA, Alaska Department of Environmental Conservation and the Navy have operated as a partnership to arrive at remedial decisions. As a result, of this partnership, FFA execution has remained on schedule despite funding uncertainty and impacts related to diminishing infrastructure on Adak due to drawdown and BRAC.

### COMMUNITY INVOLVEMENT



**RESTORATION ADVISORY BOARD** - A Technical Review Committee (TRC) was formed in 1992. The Navy attempted to establish a DOD Aleutian Islands' Restoration Advisory Board (RAB). Since Adak, Amchitka and many other islands in the Aleutian chain have no native population, a regional RAB was considered desirable. When Adak went BRAC, the Navy withdrew from the RAB. Engineering Field Activity Northwest (EFA NW) has now established a RAB for Adak. RAB membership is anticipated to include stakeholders, other parties interested in transfer possibilities and state and federal congressional representatives. Representatives from EFA Northwest attended Adak Reuse Planning Committee meeting in Anchorage and presented information on the Adak RAB. Fact Sheets have been prepared and RAB members are being solicited. Monthly RAB meetings will begin in January 1996.



**COMMUNITY RELATIONS PLAN** - A Community Relations Plan (CRP) was completed in October 1989. In August 1993, the CRP was updated to reflect changes in the Installation Restoration Program (IRP) and to meet federal and state environmental regulations. In March of 1995, the CRP was again extensively revised to reflect changes that resulted from the signing of the FFA. The CRP will be updated periodically to reflect base operational activities and Remedial Actions (RAs) planned in the near future.



**INFORMATION REPOSITORY** - An Information Repository was established in 1990 and is located at the Bureau of Land Management in Anchorage, Alaska.

### BASE REALIGNMENT AND CLOSURE



**BRAC** - Upon nomination of NAF Adak to Base Realignment and Closure (BRAC) IV list, EFA NW visited representatives from Congress and the State of Alaska, Fish and Wildlife, Coast Guard, EPA and the military participants (NAF, CINCPACFLT and NSGS) to develop stakeholders points of interest. A Reuse Planning Committee and BRAC Cleanup Team (BCT) have been formed. Stakeholder consensus for all decisions regarding BRAC execution is a major concern.

## ADAK NAF



**BRAC CLEANUP TEAM** - After NAF Adak was listed for closure, a BRAC Cleanup Team (BCT) was formed. There is also a BRAC Environmental Cleanup Team (BECT) and a Reuse Planning Committee. All of these groups exist to arrive at stakeholder consensus to the maximum extent possible.



**DOCUMENTS** - A draft of the BRAC Cleanup Plan (BCP) is expected during the first half of 1996.



**LEASE/TRANSFER** - No leases or transfers of property have taken place to date.



**REUSE** - A Reuse Planning Committee has been formed.



**FAST-TRACK INITIATIVES** - NAF Adak's BCT, BECT and RAB will work together to ensure the fast track is taken during the BRAC process.

## HISTORICAL PROGRESS

## FY86

**Sites 1-32** - An Initial Assessment Study (IAS), equivalent to a Preliminary Assessment (PA), identified 32 potentially contaminated sites at NAF Adak.

**Sites 1-9, 12 and 18-19** - These sites were determined not to pose a threat to human health or the environment and were not recommended for further investigation.

**Sites 1 and 8** - An Interim Remedial Action (IRA), posting warning signs to restrict access to areas containing unexploded ordnance, was completed.

**Sites 10, 11, 13-17 and 20-32** - These sites were recommended for further investigation.

## FY88

**SWMUs 24 and 77** - A RCRA Facility Assessment (RFA) for these two sites was completed.

## FY89

**Sites 10, 11, 13-17 and 20-32** - A Site Inspection (SI) addressed the 20 sites recommended for further investigation in the PA. Sites 10 and 23 were recommended for removal actions, although no significant contamination was found. Site 11 was found to have significant concentrations of metals, the chemical additive PCB and organic compounds in soil and sediment. At Sites 13 and 25-32, no significant contamination was found and no further investigation was recommended. Evidence of gasoline in the groundwater was found at Site 14. Evidence of the chemical additive PCB and organic compounds contamination in the soil was found at Sites 15 and 16. Site 17 had evidence of lead and petroleum hydrocarbon contamination in surface water and soil. Significant concentrations of metals in soil were found at Site 20. There were significant concentrations of the chemical additive PCB in the soil at Sites 21A and 22. Based on information collected in field surveys, Site 24 (Roberts Drum/Sludge Disposal Area) and Site 25 (Roberts Landfill and Asbestos Disposal Area) were combined in the SI. Sites 11, 14-17, 20, 21A and 22 were recommended for a Remedial Investigation/ Feasibility Study (RI/FS).

**SWMUs 24 and 77** - An RCRA Facility Investigation (RFI) was completed.

## FY90

**Site 16** - A removal action was completed. The action involved the deactivation of fire fighting training pits and the disposal of oily water and sludge contaminated with solvents, PCBs and petroleum products.

## FY91

**Sites 34 and 36** - An SI found polynuclear aromatic hydrocarbons at Site 34 and the chemical additive PCB and solvents at Site 36. The SI recommended further investigation at both sites.

## FY92

**Site 13** - An SI found significant levels of pesticides, the chemical additive PCB, dioxins, furans, heavy metals (arsenic, lead and zinc) and organic compounds in sediment and surface water. The SI recommended further investigation.

**Site 38** - An SI found low levels of metals and organic compounds. The SI recommended further investigation.

**Site 39** - An SI found elevated concentrations of the chemical additive PCB and organic compounds in soil, as well as significant levels of arsenic, lead and petroleum hydrocarbons in groundwater. The SI recommended further investigation.

## FY93

**SWMU 62** - Interim measures began to treat groundwater contaminated with petroleum, oil lubricants.

**UST 7 and SWMU 60** - Removal of abandoned field constructed ASTs and pipelines were completed.

## FY94

**UST 1** - Plans to remove nineteen abandoned USTs were developed.

**USTs 6 and 11** - NSGA USTs were removed.

**UST 8** - Thirty abandoned USTs and pipelines were removed.

**UST 18** - Completed a removal action to bioremediate 4,500 tons of petroleum contaminated soil on-island. Operations and maintenance of the bioremediation system began.

## PROGRESS DURING FISCAL YEAR 1995

## FY95

**Site 92** - A time critical removal action was completed that consisted of excavation and removal of 44 leaking incendiary (Napalm) bombs and 2 cluster bombs containing 34 incendiary bombs. These bombs were disposed of by open detonation and burning on Adak island in a containment structure built specifically for this purpose.

**Sites 92 and 95** - Removed drums and tanks and small amounts of contaminated soil.

**SWMUs 1, 8, 14, 17, 20, 52, 53, 59, 55 and 67** - Conducted field work to support Preliminary Source Evaluations (PSEs).

**SWMUs 2-7, 23, 27, 29, 30, 42, 51 and 72** - Removed drums and tanks and small amounts of contaminated soil.

**SWMUs 11 and 13** - An Interim ROD was signed in March. Action was to re-route surface water around landfill at SWMU 11 and evaluate offshore debris at SWMU 13. The ROD also required that covers be provided for both landfills.

**SWMU 24** - The CMS was completed.

**UST 1** - Completed removal action to remove various abandoned USTs.

**UST 9** - Operation of the Housing Area fuel recovery system continued.

While this system is still recovering significant volumes of free product, recovery rates are declining in the existing wells as a result of decreasing volumes of petroleum product in the area influenced by the existing recovery wells.

**UST 18** - Remedial Action (RA) began and soil bioremediation continued.

## ADAK NAF PLANS FOR FISCAL YEARS 1996 AND 1997

### FY96

A basewide Remedial Investigation and Feasibility Study (RI/FS) is planned. It is expected that the RI/FS will recommend No Further Remedial Action for most of the FFA sites on Adak as a result of the remedial actions already taken at FFA sites.

**Site 161** - RD is expected to be completed.

**OU B** - The RI/FS is expected to be completed.

**SWMUs 1, 8, 14, 17, 20, 52, 53, 55, 59 and 67** - Draft reports for this final group of PSE sites are expected to be completed in February.

**SWMU 11** - Design work and planning will continue for Interim Remedial Actions (IRAs) which consist of recontouring the site and diverting an existing stream to prevent contact with landfilled materials. The RA will be completed.

**SWMU 13** - An IRA is planned and will consist of consolidating existing on-site debris and placing cover on the site to form an intrusion barrier to prevent exposure of landfilled materials.

**SWMU 67** - A non-time critical removal action is planned. An Engineering Evaluation and Cost Analysis (EE/CA) have been completed for this removal action. The preferred alternative for the site is capping of areas of high PCB contamination at the site to form an infiltration barrier. This will

prevent erosion and leaching of any PCB contaminated soils from the site and eliminate contamination of downgradient areas including an important salmon spawning stream.

**SWMUs 24 and 77** - Corrective Measures Implementation for both sites is planned. CMS will be completed for SWMU 77.

**SWMUs 56-58, 61 and 73** - RA will be completed.

**UST 1** - The Corrective Action Plan phase will begin.

**UST 9** - Installation of additional recovery wells is planned to enhance the recovery of petroleum product.

**USTs 13, 15, 16, 21, 21, 22 and 23** - RA will be completed.

### FY97

Projected work includes completion of Risk Based Corrective Action on petroleum sites, identifying Unexploded Ordnance (UXO) areas and completing corrective actions on abandoned landfill sites identified in the FFA.

**Site 76 OU C** - The RI/FS is expected to be completed.

**SWMU 13** - RA is expected to be completed.

**SWMUs 14-17, 25, 55 and 74** - RD is expected to be completed.

**UST 1** - The Corrective Action is scheduled to begin.

## PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	48							
SI	22	30	1					
RI/FS		2			27			
RD			2		1			
RA				5	7	9	9	1
IRA					2(2)	1(1)	2(2)	1(4)
RC	7	17		4	12	9	8	3
Cumulative Response Complete	12%	40%		47%	67%	82%	95%	100%
RCRA CA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
RFA	2							
RFI	2							
CMS		1		3				
DES								
CMI			1	1		2		
IRA								
RC			1	1		2		
Cumulative Response Complete			25%	50%		100%		
UST	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
ISC	5							
INV	2	2						
CAP		2		30				
DES		1		1				
IMP			1		1	30		
IRA	5(5)	14(18)						1(1)
RC						30		2
Cumulative Response Complete						94%		100%